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ABSTRACT

CHOICES, a community model, was developed to be used by community organizations serving young women. The ultimate goal was to develop programs, using local resource persons, to help young women recognize and take advantage of the many options available to them in preparation for a fulfilling career. Other activities of the CHOICES project staff were to attend the Saturday CHOICES career conferences, plan and carry out the "Operation Smart" training sessions, serve as facilities coordinators for a career camp, and serve on the CHOICES advisory committee. The "Operation Smart" training session and reference materials served as the basis for the development of the model for community organizations. Other sources were materials developed for the Wisconsin CHOICES projects and Cooperative Educational Services Agency (CESA) 11 resource materials. All components addressed by the community model are designed to assist community leaders in planning programs to address the needs of young women to support themselves and to learn about the many options available to them. The CHOICES model is one part of a Wisconsin state initiative to help create a better future for young women. (Extensive appendixes to this report include invitation letters; registration forms; the CHOICES model; and the Project Discovery model, which emphasizes math, science, technology, and computers.) (KC)

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Final Report

CHOICES

Research Project 1437-1-A-89

conducted under a subcontract from

Cooperative Educational Services Agency 11

Center for Vocational, Technical and Adult Education

University of Wisconsin-Stout

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Community Model for Expanding Economic Opportunities for Young Women

June, 1989

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Community Model for Expanding Economic Opportunities for Young Women

by

Lorayne Baldus, Project Director

with

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1989

The Community Model for Expanding Economic Opportunities for Young Women was developed under a subcontract from Cooperative Educational Services Agency 11 (CESA 11) administered by the Center for Vocational, Technical and Adult Education, University of Wisconsin-Stout. The Model is a component of the CESA 11 CHOICES project, "Pathways to a Successful Future," funded through the State of Wisconsin Department of Health and Social Services. The opinions expressed herein do not necessarily reflect the position or policy of UW-Stout, CESA 11 or the Department of Health and Social Services, and no official endorsement by them should be inferred.

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Introduction

CHOICES, "Community Model for Expanding Economic Opportunities for Young Women," was developed under a subcontract from Cooperative Educational Services Agency 11 (CESA 11) and administered by the Center for Vocational, Technical and Adult Education, University of Wisconsin-Stout. The project was a component of the CESA 11 CHOICES project, "Pathways to a Successful Future," funded through the Wisconsin State Department of Health and Social Services. The major emphasis of the proposal was the development of a community empowerment model for expanding economic opportunities for young women based upon training for community organization leaders of young women, CHOICES conferences and a career camp.

Project proposals were based on the need for developing opportunities to increase girls' access to life/work planning options. The National Science Foundation addressed the need for future careers in science and technology in their Annual Report, Fiscal Year 1986, page 35 ff; "Minorities and women are underrepresented in science, math, and engineering; they are a valuable, largely untapped, resource for the future. With the general population of young people dropping, it is even more important to attract these two groups to careers in science and technology. The issues here are both pragmatic - science and engineering cannot afford to overlook any potential talent - and ethical - our country is committed to offering all citizens equal access to professions."". In order to utilize their talents and energy, young women need access to information regarding many career options open to them and opportunities that will help them grow into self-sufficient, responsible and self-fulfilled adults.

Young women are a part of many systems which have great impact upon them. These systems are a vehicle for providing information and direction in career planning. Families and community organizations play an important part in developing strategies for expanding the vision of these young women. With this in mind, the CHOICES project was developed to assist community groups in building realistic futures for the young women they serve.

Plan of Operation

Objective 1. Plan and carry out the two one-day Project SMART training sessions in La Crosse (April 19, 1989), and Menomonie (April 20, 1989).

Libby Palmer, Girls' Club of America, New York, NY, was the consultant hired by CESA 11 to conduct the two one-day training seminars, "Operation Smart," (Science, Math and Relevant Technology). The purpose of the training sessions was to assist leaders of community organizations working with young women, incorporate into their program of work activities to help young girls become critical thinkers and doers, develop risk taking skills and become involved in mathematics and science technology. Through participation in these activities, young women can become aware of the many choices in career opportunities.

In preparation for the workshops, potential participants were identified and a CHOICES logo was designed to be used for CHOICES correspondence. Information was sent to community organizations, schools and state sponsored agencies, February 24, 1989 (Appendix A).

Travel and lodging arrangements, facilities, agenda, luncheon, advertising, and media coverage were coordinated by the Center for Vocational, Technical and Adult Education (CVTAE), UW-Stout. An article describing "Operation Smart" was published in the Eau Claire Leader, April 21, 1989. The participants represented diversified community groups with 14 attending the La Crosse workshop and 17 at UW-Stout.

Libby Palmer's presentation included a "hands-on" physics activity and small group activities. The major teaching strategy was using a discovery approach to learning in a nonthreatening, nonevaluative atmosphere. Workshop evaluations were conducted by CESA 11.

Objective 2. Develop a community empowerment model to assist young women in exploring life/work planning options within existing community groups.

The "Operation Smart" training and materials were used as the basis for the development of two models, "Community Model for Expanding Economic Opportunities for Young Women" (Appendix B), and "Project Discovery" (Appendix C), which may be used as a resource for mini grants submitted to the 1989-1990 Western Wisconsin CHOICES initiative.

The community model was presented to a Western Region CHOICES Advisory Committee meeting held at UW-Stout, May 12, 1989. The model was submitted to CESA 11 and is in the process of being submitted to the Wisconsin CHOICES Advisory Board of the Wisconsin Women's Council for use in Wisconsin.

Objective 3. Assist in the three one-half day CHOICES conferences in River Falls (March 11, 1989), Rice Lake (March 18, 1989) and La Crosse (March, 1989).

The Saturday CHOICES conferences were planned and conducted by CESA 11, the local chapters of American Association of University Women, and interested individuals. The conferences were held in River Falls and Rice Lake, but the La Crosse conference was cancelled due to low registration. These "CHOICES" conferences support the larger CHOICES initiative to introduce career explorations to young women and were used in the development of the Community Model.

Objective 4. Serve as facilities coordinator for the June 1989 CHOICES Career Camp to be held on the UW-Stout campus.

"Footsteps to the Future," a career camp for young women, funded by the Wisconsin Women's Council, was held at UW-Stout, June 6-9, 1989; with 95 participants, ages 13 to 15 and 70 participants for the La Crosse camp, June 20-23, 1989. The conference coordinators were Jackie Pedersen, Health Coordinator, Ladysmith Public Schools, Ladysmith, WI; and Barbara Wehman of CESA 11. Lorayne Baldus and Susan Foxwell, CVTAE, assisted by identifying keynote speakers and resource people in careers nontraditional for their gender, as well as making the initial contacts for facilities, resource persons, and arrangements for activities at UW-Stout.

Additional arrangements and follow-through were provided by CVTAE staff. Susan Foxwell was a keynote speaker for both the La Crosse and UW-Stout camps.

Objective 5. Serve on CHOICES project interagency committee.

CVTAE staff served on the CHOICES project inter agency committee with five meetings attended, November, 1988 through May, 1989.

Summary

The primary focus of the CESA 11 subcontract was to develop a community model to be used by community organizations serving young women. The ultimate goal is to develop programs, using local resource persons, to help young women recognize and take advantage of the many options available to them in preparation for a fulfilling career. The other components of the CHOICES project were to attend the Saturday CHOICES career conferences, plan and carry out the "Operation Smart" training sessions, serve as facilities coordinator for a career camp and serve on the CHOICES Advisory Committee.

The "Operation Smart" training session and reference materials served as the basis for the development of the model for community organizations. Other sources were materials developed for the Wisconsin CHOICES projects and CESA 11 resource materials.

There is a great need to help young women make wise choices thereby creating a meaningful future for themselves. Many live in poverty, are from single-parent families and may live in rural communities with limited career options. Many of these young women will need to work to support themselves and their families. It is critical that families and communities provide programs whereby young women will have the opportunity to learn about the many options available to them, participate in events that lead to a positive self image and a feeling of self-worth, and create a plan for themselves that will lead to a fulfilling life as a self-satisfied, self sufficient adult. All components addressed by the Community Model are designed to assist community leaders in planning programs to address these identified needs. The "CHOICES Model" is one part of a larger State of Wisconsin initiative to help create a better future for young women.

APPENDIX A

February 24, 1989

CHOICES CHOICES CHOICES *Pathways to a successful future*

You are invited to a seminar called Operation Smart (Science, Math and Related Technologies) designed to train community organization leaders currently serving young women. A one-day session will be offered at each of two locations, April 19, 1989, at Moxie's Midway Motor Lodge, LaCrosse, Wisconsin and April 20, 1989, at the University of Wisconsin-Stout, Menomonie, Wisconsin. Libby Palmer, affiliated with Girls Club of America, New York, New York, will conduct the training sessions.

The rationale for conducting this training session is based on research indicating that most young women will work for pay, in great numbers, for a long time and out of economic necessity. It is based on the premise that choices made by young women early in life based on sex role stereotyping and bias, may limit the opportunity in planning for future careers. This training is designed to help leaders of young women develop programs preparing them for a changing future they will help create. What we hope to achieve is a change in perception of sex role stereotypes helping girls to become critical thinkers and doers, develop risk taking skills and become involved in mathematics and science technology that will lead to many more choices in career opportunities.

The training session and materials used will be the basis for the development of community models, using local resource persons to aid young women in recognizing and taking advantage of the many resources available to them in preparation for a fulfilling career. The organizations represented will have the opportunity to apply for a mini-grant to implement some of the "Operation Smart" strategies in their program next year. To be considered for this mini-grant, a representative of your organization must be present at one of the two "Operation Smart" training sessions.

We highly recommend your participation in the workshop, "Operation Smart", to incorporate ideas into your program of work to help young women develop personal empowerment skills to prepare them for a changing future. Our space is limited with a maximum of sixty persons per workshop, so it is recommended you make your reservation early. Cost of the one day conference will be $20.00 per person to cover the costs of a noon luncheon, snack breaks, and course materials.

A registration form is enclosed with pertinent information regarding the training sessions. You may attend either one. Please send the completed registration form by April 3, to Barbara Wehman, CESA 11, P.O. Box 728, Cumberland, WI 54829, along with a check made payable to CESA 11.

Information regarding the agenda, location, registration procedures, and parking areas will be sent to you following receipt of your paid registration. If you have any questions please call CESA 11, (715) 822-4711 or Lorayne Baldus at (715) 232-1395. We look forward to working with you in the preparation of meaningful programs of work to help young women make the important choices that will help shape their lives.

Sincerely,

Lorayne Baldus, Project Director
CHOICES Project
Center for Vocational, Technical
and Adult Education
218 Applied Arts Building
Menomonie, WI 54751

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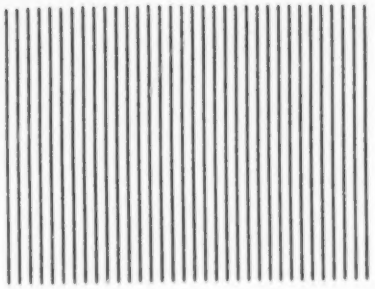
Enclosure



OPERATION SMART

CHOICES CHOICES CHOICES *Pathways to a successful future*

Attend a training session to plan and implement an exciting out-of-school program to encourage every girl in science, mathematics and relevant technology.

I plan to attend the following session on **"Operation Smart"**:

___ April 19 LaCrosse, Wisconsin
Moxie's Midway Motor Lodge
1835 Rose Street

___ April 20 Menomonie, Wisconsin
Great Hall, Student Center
University of Wisconsin-Stout

___ I have enclosed a $20.00 check made payable to: **CESA 11**

Name _____

Address _____

_____

Telephone Number (___) ___-____

Organization you represent _____

Position within organization _____

Send completed registration form by **April 3** to:

Barbara Wehman
CESA 11
P.O. Box 728
Cumberland, WI 54829

Explore

Take risks

Question

Observe

Make a mess

Try again

Discover

APPENDIX B

Pathways to a successful future

COMMUNITY MODEL FOR EXPANDING ECONOMIC OPPORTUNITIES FOR YOUNG WOMEN

Center for Vocational, Technical and Adult Education
University of Wisconsin-Stout

Community Model for Expanding Economic Opportunities for Young Women

by

Lorayne Baldus, Project Director

with

Barbara Wehman
Human Growth & Development Coordinator
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CHOICES

Community Model for Expanding Economic Opportunities for Young Women

The CHOICES Community Model is a program and philosophy designed to assist community leaders and families in developing opportunities to increase girls' access to and actively explore life/work planning options. Central to the Community Model is the involvement of community organizations and families. They have a significant role to play. Families can serve as motivating and awareness factors in girls' development. Both can extend education beyond the schools and provide informal learning opportunities where everyone can acquire the critical knowledge and skills necessary for expanding life planning options.

The philosophy guiding the development of the Community Model is based upon the following beliefs:

1. The role of women is changing in our society and today's young women need focused assistance in preparing for the changing world in which they will live.

2. All young women are entitled to experience a meaningful future for themselves - one that they create through thoughtful choice, development of skills and a belief in themselves.

3. The need to eliminate the way that young women are often treated differently. Being treated differently limits their development of necessary skills and negatively affects the beliefs they have about themselves.

4. Young women are entitled to fair and just treatment regardless of sex, age, race, religion, cultural heritage or family status.

5. The family is a most important educator in developing the wide opportunities which increase girls' life/work planning options. We therefore must help families examine how they can best prepare their young women for economic and personal self sufficiency.

6. It is important for young women to become independent and to exercise control over the direction their future lives.

7. To be effective, young women need to receive specialized affirmative programs which are delivered in a sex separate manner. This allows them to take risks and explore ideas without the impact of male participants.

Based upon this philosophy, the "CHOICES" project is designed to be a framework, a starting point and a catalyst, using community organizations, families and key leaders, to provide positive engaging programs of informal education.

The overall purpose of the community based model is to help girls acquire an attitude of **CAN CHOOSE, CAN DO, CAN BECOME.** We want to challenge girls to question and explore; to create and build; to think carefully and critically; to analyze, and understand; to focus, organize and look for patterns; to grapple with ideas; to take physical and intellectual risks; and above all, to become critical thinkers using reasoned, valued beliefs. The program is more a perspective and philosophy than a specific set of activities or events. What is communicated to girls is a way of thinking and looking which comes from carefully designed experiences. Ultimately, the aim is to help girls grow into self-sufficient, responsible and self-fulfilled adults; to build confidence and the

feeling that they can create a meaningful future for themselves. It is the building of a sense of power and belief in oneself that is central to the "CHOICES" goal and the offering of tools physical, intellectual and emotional - to take control of their lives and to make decisions that have a positive impact on the world in which they live.

This program is designed to create the opportunities and environments which promote these kinds of realizations, and to offer activities based on research and the changing needs of today's young women. It is a process with the ultimate goal of helping young girls achieve self-esteem, expand career options and become self sufficient, responsible and self-fulfilled adults. It is designed to be implemented by existing community groups and within families to support the development of self-esteem.

The CHOICES Model is designed:

TO	Enhance Services and Advocacy for Adolescent Women Ages 10 to 18
BY	Developing A Comprehensive Model of Services to Help Adolescent Females Prepare for Future Work and Family Roles
THEREBY	Reducing the Possible Victimization of Young Women and Their Later Dependence Upon Public Assistance Through Personal Empowerment, Wise Choices and Enhancing Self Esteem

The model addresses:

A. Raising community and family awareness and development of effective action strategies.

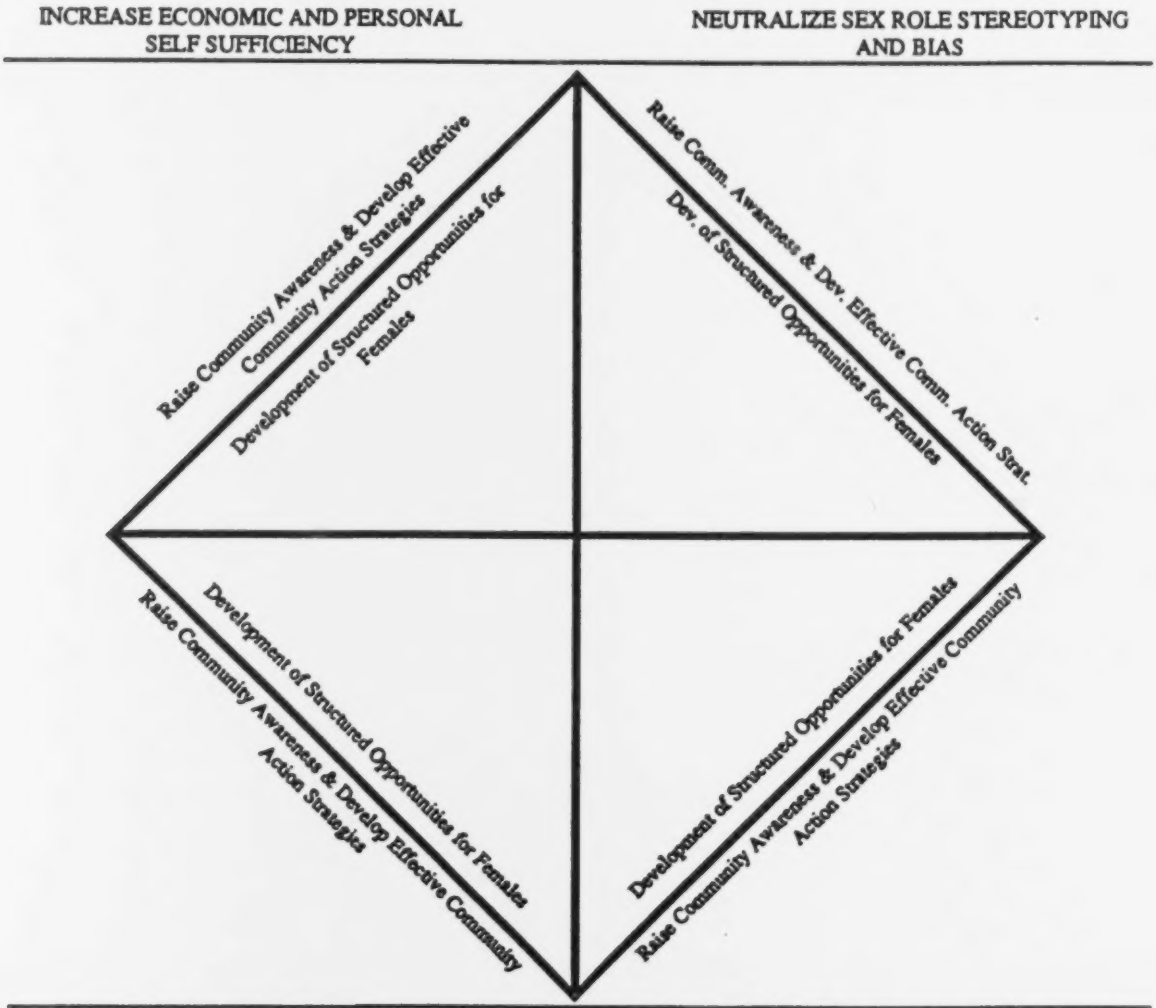
B. Development of structured opportunities for adolescent females to learn about and acquire skills with regard to the following four areas.

Increasing Personal and Economic Self Sufficiency	Neutralizing Sex Role Stereotyping and Bias
Expanding Career Options	Promoting Positive, Emotional, Physical Health Choices

Each of these four components are interrelated and there is no order of priority. One does not come before another, but rather they work together in a dynamic interactive way. Activities chosen to address one component can have an impact on the other three areas. Central to each is the building of self esteem which is essential to personal empowerment and preparation for future work and family roles.

The scope, depth and direction of the activities chosen for the Community Model are unlimited. The diamond graph illustrates the interrelatedness of all components within the model. The explanation of the components are open-ended, allowing those who participate in the Community Model to design their own programs based on the Model framework.

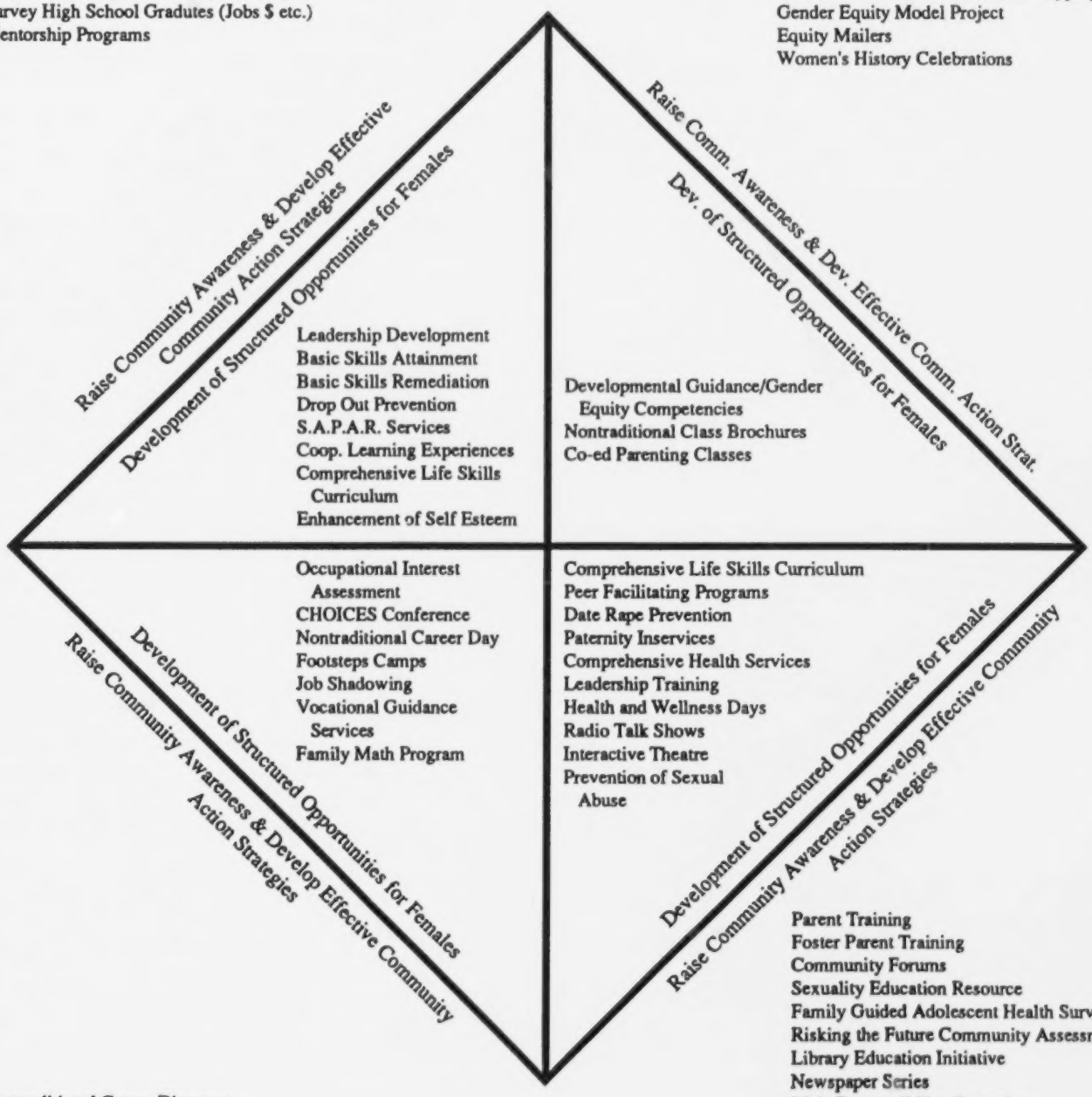
TO HELP YOUNG WOMEN PREPARE FOR THE WORLD TOMORROW
AND AVOID VICTIMIZATION, POVERTY AND DEPENDENCE WE NEED TO:


INCREASE ECONOMIC AND PERSONAL SELF SUFFICIENCY
NEUTRALIZE SEX ROLE STEREOTYPING AND BIAS
Raise Community Awareness & Develop Effective Community Action Strategies
Development of Structured Opportunities for Females
Raise Comm. Awareness & Dev. Effective Comm. Action Strat.
Dev. of Structured Opportunities for Females
Development of Structured Opportunities for Females
Raise Community Awareness & Develop Effective Community Action Strategies
Development of Structured Opportunities for Females
Raise Community Awareness & Develop Effective Community Action Strategies
EXPAND CAREER OPTIONS
REDUCE ADOLESCENT PREGNANCY AND OTHER HEALTH RISK BEHAVIORS

Examples of activities within each component are given on an expanded graph and further clarified on subsequent pages. Community groups can select and structure activities which fit into their program of work and philosophy while focusing on the concept of life/work planning for young women.

TO HELP YOUNG WOMEN PREPARE FOR THE WORLD TOMORROW

AND AVOID VICTIMIZATION, POVERTY AND DEPENDENCE WE NEED TO:



Increase Personal and Economic Self Sufficiency

It is critical that young women develop skills and activities to be active choosers in their world rather than passive participants. Acquiring a sense of identity and self esteem is an essential component of this goal. Developing personal self sufficiency means building positive self esteem and can be described as including these four components:

1) Individuality ("I am somebody.") - a strong sense of myself as a unique individual with rights and needs, as well as obligations, and an appreciation of my body and mind as special.

2) Connections ("I belong.") - a sense of being respected for myself and being connected, both with others and within the social context, present and past.

3) Power ("I am competent.") - a sense that I can influence the circumstances of my life, that I have skills, and that I am in control of what happens to me.

4) Options ("I have possibilities.") - exposure to models and the ability to envision a wide range of possibilities for myself such that I can set my own goals.

Individuality, connections, and power relate to well-being in the present, while options relate to envisioning the future. Present well-being and future hope are both essential to self esteem.

Examples of how increasing personal and economic self-sufficiency can be developed include the following suggestions: (Note that all examples are open-ended as the lists are not complete.)

- Leadership training;
- Cooperative learning experiences;
- An "outward bound" risk-taking experience;
- Life skills curriculum.
- _____
- _____
- _____

Neutralize Sex Role/Stereotyping and Bias

Bias (Prejudice) involves how an individual perceives people based on personal or cultural values. It is the process of making a value judgment that prejudges people based on preconceived expectations which may or may not be conscious (e.g., the expectation that women do not want to get dirty).

Sexism is the overt expression of stereotyping or bias relative to gender, with the effect of limiting the growth or potential of the individual to whom the sexism is directed. Sexism involves the exaggeration or distortion of sexual differences or the use of sexual differences when they are irrelevant.

Sex discrimination involves the violation of a law regulation. An example of sexist and discriminatory practices is having separate physical education classes for girls and boys. In this case, Title IX of the Education Amendments of 1972 would be violated because equal access and equal treatment under the law were compromised by a sexist behavior.

Stereotyping, bias, sexism, and sex discrimination directly undermine the components of self esteem (individuality, connections, power, and options).

Stereotyping, bias, sexism, and sex discrimination:

1) Negate individuality because the person is seen and judged primarily as a member of a group (the female sex or the male sex), not as a unique individual.

2) Undermine connections because females are left out of the mainstream of history in many traditional textbooks and in many teaching approaches, leading girls to believe they have had, or will have, little to do with the growth of civilization.

3) Diminish power because males are seen as influential leaders in all spheres of life, whereas women are typically relegated to service positions.

4) Limit options because role models for jobs and positions nontraditional to one's sex are missing or in short supply.

Examples of how neutralizing sex bias and stereotyping may be achieved include the following:

- Address sex equity within school districts as part of their school improvement efforts;
- Help young women critically analyze media messages;
- Highlight the important contributions of women in science and history;
- Use every opportunity to point out sexism and stereotypes.
- _____
- _____
- _____

Expand Career Options

Career awareness is an essential component of a program that strives to create equitable opportunities for girls, to include minority and low-income backgrounds, and for girls with disabilities. Young women need a clear sense that they have a future over which they can exert some control, and that there are real possibilities in career choice and paths that open up those options.

Expanding Career Options is important because:

- Most young women, today, will be in the labor force for a number of years;
- Women are traditionally clustered in low-paying positions with limited benefits;
- By expanding career choices, they can choose employment which provides a higher income and results in a quality of life appropriate for themselves and their families;
- The future work force will rely upon the participation by women at all levels.
- _____
- _____
- _____

Examples of how career awareness may be developed include the following activities:

- "CHOICES" career day workshops;
- "Footsteps to the Future" career camp;
- "Project, Discovery" (participating in math, science and technologies);
- Panel or speaker - women in nontraditional occupations;
- Field trips to community businesses (i.e., veterinarian, auto-body shop, newspaper, house construction, cement factory, radio station).
- _____
- _____
- _____

Promote Positive, Emotional and Physical Health Choices

Young women can promote options by knowing about and acting on choices affecting health issues. They need to reflect on how health choices made will impact on their future. For example, young women make health choices regarding diet to achieve a certain body image. Early sexual activity can rob young women of an opportunity for a meaningful future. Being a sexually abused female can limit their ability to achieve warm and nurturing relationships as well as develop a positive sense of self. Early experimentation with chemicals (i.e., alcohol, street drugs, prescriptions) creates a situation where personal control is relinquished.

Examples of how positive emotional and physical health choices can be developed include the following:

- Support and promote comprehensive sexuality education;
- Develop strategies to address chemical use and abuse;
- Offer health and wellness speakers, workshops;
- Survey adolescent health/wellness attitudes and behaviors;
- Identify resources and ways to access young women with emotional and physical health issues, provide the necessary supportive resources.
- _____
- _____
- _____

Summary

The CHOICES Project is a part of the CHOICES Initiative in Wisconsin which is a prevention and intervention project funding six regional technical assistance centers to aid local communities in preparing adolescent girls for the realities of their future family and work goals. Long term goals are to reduce welfare dependency, unemployment, underemployment, unplanned pregnancy, and increase the self sufficiency of young women in the state. Target populations are adolescent girls ages 12-18, their parents and professionals working with young women. Low income, minority and disabled youth are an identified focus for service.

The vision for the western region is to help young women grow into self sufficient, responsible and self-fulfilled adults by:

A. increasing their economic and personal self sufficiency

B. neutralizing sex, cultural and racial stereotyping

C. expanding their career options

D. reducing their health risk behaviors.

The Community Model for Expanding Economic Opportunities for Young Women is a part of the Western Region CHOICES project which is designed to achieve the above by:

1. Creating community coalitions which will act in a project advisory and advocacy role for young women's needs.

2. Expanding awareness of the unique needs of area young women and how some of their needs are not being adequately addressed.

3. Establishing a regional technical assistance center for young women to provide information, community organization, facilitation advocacy and skill building services.

4. Creating vehicles for providing effective direct services for young women. These direct services, implemented on a pilot basis, are the vehicle by which community coalitions build identity and skills and serve to expand the awareness of the unique needs of this population. The ongoing provision of these services will be transitioned to other community organizations after the initial pilot period.

Students often make life choices very haphazardly and with limited knowledge. Very early young women form perceptions and develop interests in ways which limit their scope of opportunity and belief in themselves. In reality, there are a wide range of options for home, family, careers and personal development which exist today. By becoming aware of the great possibilities which exist, young women will have a better opportunity for making life planning decisions based on knowledge and awareness versus the limiting stereotyped options. It is with these issues in mind, that the Western Region CHOICES Community Model has been designed.

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APPENDIX C

Pathways to a successful future

PROJECT DISCOVERY

A COMPONENT OF THE
COMMUNITY MODEL FOR EXPANDING
ECONOMIC OPPORTUNITIES
FOR YOUNG WOMEN

Center for Vocational, Technical and Adult Education
University of Wisconsin-Stout

Project Discovery

A Component of the
Community Model for Expanding Economic Opportunities for Young Women

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Menomonie, WI 54751

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Community Model for Expanding Economic Opportunities for Young Women

CHOICES - Project Discovery

Project Discovery is a program designed to assist community group leaders in developing activities to increase girls' access to and participation in math, science and technology. These community based organizations have a significant role to play. They can extend the responsibility for education beyond the schools and make available informal learning opportunities where everyone has access to critical knowledge necessary for expanding life planning options.

Project Discovery is based on the critical need for high school graduates who are competent in mathematics and science. There are increasing requirements for graduation, yet very little is being done to implement strategies to increase the number of minority males or women in the mathematics and science pipeline. Nationally, only 10.6 percent of college bound women indicate a desire to major in physical sciences. Segregation in schools leads to segregation in the job market. According to the National Academy of Sciences, half of all Americans work in jobs that are 80 percent male or female.

The reason that young girls may not be doing well in math or science is that they do not have role models, they are treated differently in classes and are subject to sex-role stereotyping often which is very subtle and unintentional, but has the same effect. Project Discovery, using community-based organizations, is in a unique position to provide positive engaging programs of informal education. The overarching purpose of the community based model is to help girls acquire an attitude of scientific inquiry toward everything they do. Ultimately, the aim is to help girls grow into self-sufficient, responsible and self-fulfilled adults with a view of a wide variety of options in career/work life planning. The purpose is to build confidence and the feeling that they can do all manner of things, not just use tools and operate a computer.

The goals of Project Discovery are:

- To enable voluntary, non-school organizations to offer programs in math, science, technology, and computers;
- To help young people discover the math and science concepts in everyday life; and to assist leaders of organizations encourage an attitude of questioning and exploration throughout group activities and approaches;
- To provide girls with access to resources in the community that can further their interest in math, science, technology, and computers;
- To support girls to enroll in the sequential math and science courses in junior high and high school that are prerequisites for most college majors and most nontraditional, well-paying jobs;
- To determine how community groups and schools can best work together to increase girls' interest and involvement in math, science, technology, and computers.

COMPONENTS OF PROJECT DISCOVERY

With the inquiry approach as the underlying philosophical and programmatic focus, the model will contain the following elements:

- Structured sessions in math, science, technology, and computers;
- Incorporation and integration of math, science, technology, and computers into all programs and activities;
- Career exploration and awareness;
- Involvement of families;
- Use of community resources.

1. Structured sessions in math, science, technology, and computers.

The planned math and science programs are organized into "modules" that contain eight to twelve sessions of an hour to an hour and a half each, focusing on various aspects of science and math. A session may have one activity or several, and is designed so that clubs can pick and choose, add and subtract, and put together their own combination of experiences. The emphasis is on "hands-on" and "bodies-on" activities that involve all the senses, and get girls thoroughly engaged both physically and intellectually. For example:

- Take apart radios, hair dryers, mixers, and other small machines - and put them back together as well;
- Build with toothpicks and gumdrops as girls learn about construction and geometry simultaneously;
- Build anemometers to measure the speed of wind. In a subsequent visit to the weather station, the builders explain to other girls - and boys - what anemometers do, and are full of additional questions for the meteorologist;
- Use problem-solving software that simulates a canoe race, and make decisions along the way - from what equipment to take to what course to follow - that affect the outcome. When one team is caught in a torrential rainstorm without the tent they had decided was too heavy, they think twice about the radio they thought they couldn't live without.
- Investigate worm farms, ant farms and hatching chicks. Analyze what conditions permit development and hatching of chickens and ask to examine eggs that remain infertile, or whose shells did not soften and the chicks died before hatching.
- Build cameras from cardboard cylinders in an optics program and learn about how eyes and lenses work. Build replicas of buildings from straws.

Other examples of experiments to develop questioning and thinking skills :

Physics

- Make bubbles using hands, cans, straws and tubes determine what makes bubbles bigger. What makes them break, forces impacting on the bubble.
- Sink or Swim - What makes an object float - properties of different objects.
- Siphoning - Use tubes to suck on, blow, connect two vessels of water - discover what causes liquid to flow between two areas.
- Water Wheels - Use of water, wheels, objects to change force, speed, create power.

Biology

- Explore "the Body Senses" such as hand capacity, lung capacity, finger printing, hair characteristics, touch, smell, taste, and body parts.
- Dissect a fish - How do the body parts relate to our bodies?
- Create bug farms

Chemistry

- Build rockets using baking soda and balloons.
- Discover natural indicators in food - the color changing by PH factor using acid or alkaline substances.

Create a Product using

- carpenter's tools,
- paper,
- paint (color wheel),
- ooblick,

2. Incorporation and integration of math, science, technology, and computers into all programs and activities.

Incorporating math and science means always asking how and why, trying to predict what will happen if . . ., not being afraid of being wrong, seeing failure as an opportunity to analyze and learn. In the actual program that may translate to:

- Take a walk around the block to look at how the sidewalks are constructed, how the sewers work, what the building is made of and how; to the gas station to examine pumps and gauges, gas and oil, lifts and jacks and tire pumps;

- Take apart machines (without pressure to reassemble them), figuring out how things work, using tools, trying to come up with alternative ways to do a task;

- Experiment in the pool to see whether you go faster when you bend your knees or keep them straight when kicking, or when you pull your arm in a straight line by your side or in an S curve;

- Leave out ingredients in cooking and see what will happen;

- Allow the girl who is intent on her projects to finish what she is doing even though you want her to move on to something else.

With this perspective, it then becomes possible to make the chemistry in cooking, the geometry and trigonometry of pool and basketball, the engineering and design in wood working come alive for children. Girls start to make connections to what they do in school and at home. As they learn to define a problem, ask questions, pursue answers, and generate more questions, they will gain confidence in their ability to figure things out for themselves, to initiate thought and activity, to take chances and make intellectual leaps; and that this in turn will enable help them to reflect on who they are and where they are going, and to take responsibility for their own learning, choices, and development.

3. Career exploration and awareness.

Career awareness is an essential component of a program that strives to create equitable opportunities for girls, for youngsters from minority and low-income backgrounds, and for girls with disabilities where they may experience the dual discriminations of being disabled and female. Young people need a clear sense that they have a future over which they can exert some control, and that there are real possibilities in career choice and paths that open up those options.

This translates into several emphases within the CHOICES program. First, for all age groups, it means challenging stereotyped notions of what is appropriate and possible. While the younger girls may carry around biases and negative attitudes, the young adolescents are even more of a challenge. Their intense desire to belong, to be accepted and acceptable, makes math and science even harder to sell to an age group that perceives these fields as not for girls, only for unattractive and unpopular eggheads, too difficult and therefore too likely to lead to failure and embarrassment in front of others. At the same time, ten- to fourteen-year-olds are full of creative energy waiting to be tapped, and are developing a moral and ethical awareness of the world around them. They are ready to question how things are and how they can be different. Organizations outside of school can readily support their natural desire to contradict and question; they can make the illicit - in this case, questioning of authority and the status quo - available, in ways that schools and parents and even peers do not normally allow.

Career awareness may result from participating in science and math activities. Other program suggestions are:

- Pictures of Women in Action - Collages
- Field trips to community businesses (i.e., veterinarian, auto-body shop, newspaper, house construction, cement factory, radio station)
- Panel or speaker - women in nontraditional occupations
- "CHOICES" career day workshops
- "CHOICES" career camp

4. Involvement of Families

Community based organizations have closer ties and easier access to girls' families than do schools. Families can serve as motivating factors in girls' development and pursuit of math and science. Parents are anxious for their daughters to succeed, to do well in math and science in school, and to be able to support themselves.

Parents may be involved through:

- Volunteer work
  - Lead activities
  - Field trips
  - Advisors and consultants
  - Career role models
- Special events involving parents.
- Use of Family Math book and its activities involving parents.
- Strategies to reach out to parents
  - programs on parenting, child/parent conflicts, coping with the teenage years, etc.
  - computer training for parents
  - provide connection for training and employment for those in need.

5. Access and Use of Community Resources.

Individuals and organizations in the local community and school can provide assistance in program development, staff training, and connections to internships and eventual employment opportunities.

Advisory boards may be formed from the community to assist in the program planning and to serve as links to the community. In using advisory boards, it is very important to structure meetings well, have a purpose for the meeting, and to use advisory members' time well.

Points to remember when forming an Advisory Board are:

- Select members from diversified groups to give a broad-based direction.
- Letters should be sent asking members to serve, giving the purpose of the group, length of time for serving, and expectations of the members.
- Meetings should be well structured and meet only when necessary.

6. Training of leaders involved in Project Discovery.

The purpose of the "CHOICES" project is to encourage girls to question and approach any situation with an attitude of scientific inquiry. Encouraging children to challenge, question, and not be satisfied with the status quo can be seen as quite radical and threatening. How you get girls to question, how you elicit their ideas and responses, how you avoid the "rush to rescue" or the "guess what I'm thinking" approach to teaching, are techniques that do not come naturally to most people, including good, committed youth workers. Even in a setting removed from the formal school, teachers need support and training to do this effectively.

Training opportunities should be made available to everyone, not just those directly connected with the project. Once leaders gain a basic level of commitment, confidence, and competence, they can be expected to train one another and to work together as knowledge-seekers. But that process may take a year or more. Outside consultants may be particularly effective in helping leaders confront their own discomfort with math and science, in overcoming basic resistance to expanding program approaches, and in observing and offering feedback on programs.

Providing planning time and informal time for leaders also helps. It is probably less a question of what they talk about than that they have time to talk, to share, to exchange, to express how they are feeling and what they envision.

It is important to the success of the "CHOICES" project to have leaders who are flexible, have the desire to foster children's natural curiosity, and possess an instinctive ability to help girls question and explore. In scientific questioning, this means the adult motivates the person to question and recognize problems rather than posing the question and defining the problem. To be flexible means allowing for mess and noise, seeking alternative answers, and valuing the process rather than the product. For many adult leaders, this method of operating does not come easily; therefore, training of leaders may be the most important element in the success of "CHOICES, Community Model for Expanding Economic Opportunities for Young Women" and its sub-component, Project Discovery.

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